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# First confirmed record of the Bartail flathead *Platycephalus indicus* (L.; 1758) (Actinopterygii:Platycephalidae) in the Syrian marine waters (Eastern Mediterranean)

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## ABSTRACT

This paper confirms that the Bartail flathead fish, *Platycephalus indicus* (Platycephalidae), exists in the Syrian coast where a single specimen was caught at 25-30 m water depth off Banyas coast. It is the first time that this species is scientifically documented. This species is regarded as rare and, once established, it may threaten the native species.

**Keywords:** Platycephalidae, *Platycephalus indicus*, Mediterranean biodiversity, Lessepsian species, Syrian marine water

## 1. INTRODUCTION

Platycephalidae family is commonly known as flathead fish, characterized by their moderately to strongly depressed head and the pelvic fins are situated behind the pectoral base. It has two dorsal fins, large mouth and the lower jaw is longer than the upper. The eyes are partly directed upward and the orbit diameter equals to or less than snout length. Sharp teeth in the mouth and vomer are present in most and stout canines present in few species. The head usually has a spines on the upper side. *Platycephalus indicus*, of the Platycephalidae family, spreads in Indo-West Pacific, Red Sea and East Africa along to the Philippines, north to southern Japan and south to northern Australia. It entered the eastern Mediterranean where it is found on sandy or muddy bottoms in different shallow waters (Froese and Pauly, 2021). In addition to its high commercial value, it is used in traditional medicine (Chen et al., 2020). Since its inauguration, the Suez Canal has contributed to the continuous entry of lessepsian species into the Mediterranean, changing this sea to a biological hotspot (Mannino et al., 2017, Alshawy et al., 2019b). *P.indicus* had been recorded in the Mediterranean in 1962 Sea for the first time (Por, 1978), and in 2002, based on unpublished data, it was witnessed in the

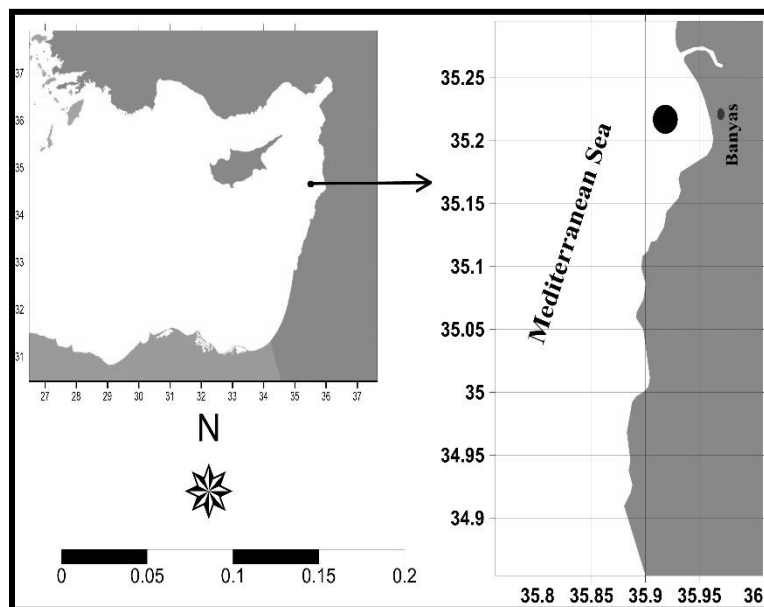
Syrian coast (Ali, 2018). This paper confirms that, after 18 years of the first witness, *P.indicus* has been recorded in the area of the Syrian coast facing Banyas city.

## 2. MATERIAL AND METHODS

On 21/12/2020, a regular field tour was done in the maritime waters fronting Banyas city, Syria (N: 35°14'35.11", E: 35°55'12.56; Fig. 1) using a gillnet (25 mm mesh size, 3.5 m height, 200 m length: with duplicates), with using of fishing boat (10 m and 20HP). The fish was identified according to Carpenter and Niem (1999) and Rizkalla and Akel (2016). The morphometric and biometric measurements, which the length and weight had been gotten, and meristic counts were noted. The fish had been taken some photos for documentation. The specimen had been preserved in 7% formaldehyde, and sited at the Biological Laboratory of HIMR (Tishreen University - Lattakia, Syria); with a reference number of (HIMR-2021-A01).

## 3. RESULT

A single specimen of *Platycephalus indicus* was caught at 25-30 m water depth off Banyas coast – Syria. It has the following diagnostic characteristics: Elongate body with strongly depressed head (Fig.2-a) that has smooth bony ridges, two spines on each side of the preopercular (Fig.2-b) and one preocular spine for each eye (Fig.2-c). The teeth on vomer are in a single transverse band and the dorsal fin has two parts. The body has brown spots on the dorsal side and colored pearly white in the ventral one. Some dark blotches are located on the pectoral, pelvic, anal and dorsal fins, and the caudal fin has a yellow blotch in the middle and white ones on its edges (Fig.2-d). The morphometric dimensions are sited in Table (1) and the formula of fin was: D,VIII+13;P,16;V,5;A,13;C,11. These features of *P.indicus* are in full agreement with Carpenter and Niem (1999) and Rizkalla and Akel (2016).

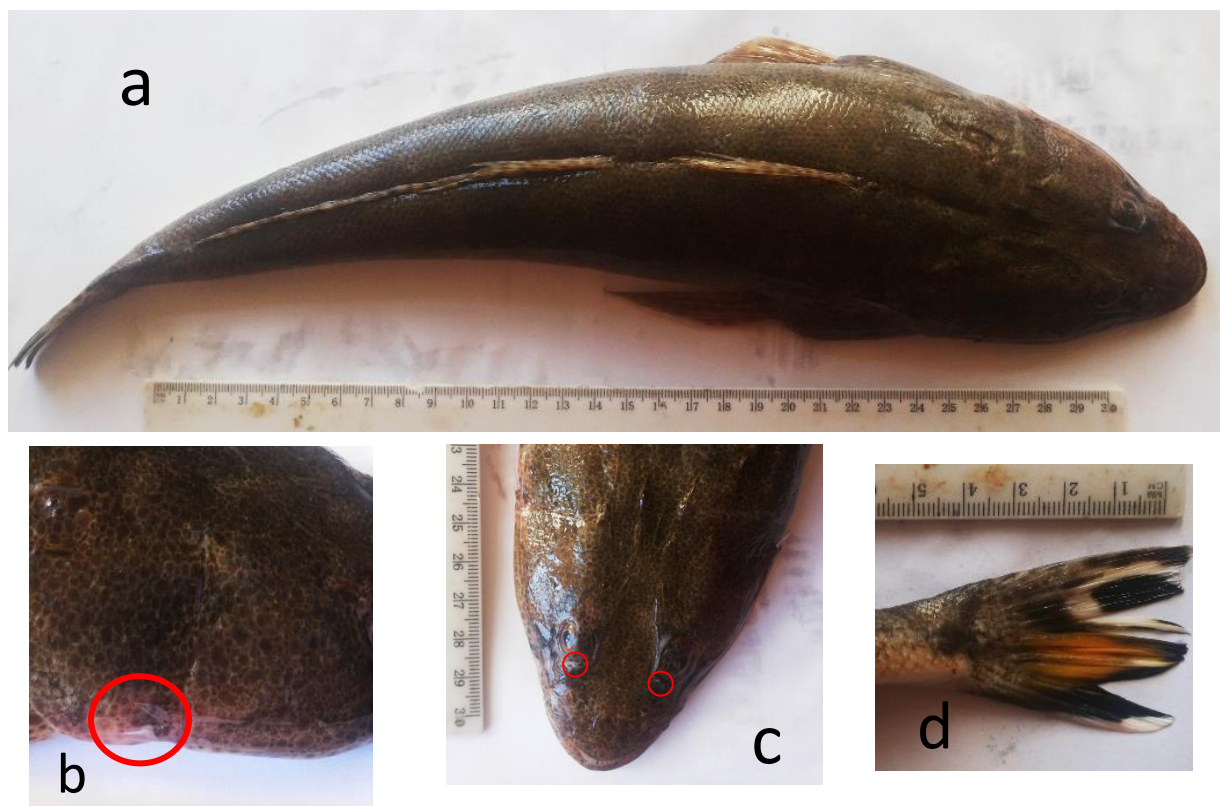


**Fig.1.** A map showing the collection site of *P.indicus* specimen from Banyas coast – Syria.

**Table 1.** Morphometric and biometric characteristics of *P.indicus* from Banyas coast

Factors	Morphometric measurement (mm or g)
Total length	386
Standard length	335
Head length	84

Eye diameter	52
1 <sup>st</sup> dorsal fin length	47
2 <sup>nd</sup> dorsal fin length	120
Pectoral fin length	46
Pelvic fin length	64
Anal fin length	133
Caudal fin length	50
Pre-dorsal length	106
Pre-pectoral length	75
Pre-pelvic length	114
Pre-anal length	183
Total weight	474



**Fig. 2.** *P.indicus* specimen caught on 21/12/2020 from Banyas coast (a: fish body; b: two spines on preopercular; c: preocular spine for each eye; d: caudal fin with yellow blotch)

#### 4. DISCUSSION

The Bartail flathead *P.indicus* is a lessepsian fish, interred the Mediterranean Sea from Pacific Ocean and Red Sea, and had been witnessed in the Syrian coast for the first one in 2002, even though the supporting data was not published (Ali, 2018). In 2020, and after 18 years, a single individual of this species had been encountered off Banyas coast, confirming the presence of *P.indicus* in the area and giving the opportunity for its scientific documentation. The sparse encounters of this species indicate that this species is still rare in the area and not truly established itself yet. By its newly changing properties due to the recent climatic changes

(Alshawy et al., 2019c, d, Ibrahim et al., 2020a, Ibrahim et al., 2020b), the Syrian marine water, as part of the eastern Mediterranean, becomes able to accommodate large spectrum of lessepsian species (Jawad et al., 2015, Alshawy et al., 2019c, Ibrahim et al., 2020b). This record provides further evidence of Mediterranean southernization by tropical and subtropical species (Ibrahim, 2009, Alshawy et al., 2016, Alshawy et al., 2019a). Confirming the presence of *P.indicus* in the Syrian marine water may be a signal for future establishment in this area, especially that this species has already been established in many other parts of the Mediterranean (Sperone et al., 2015, Rizkalla and Akel, 2016). *P.indicus* is a carnivorous species that feeds on a variety of fish and crustacean species (Hashemi and Taghavi Motlagh, 2013) and, once established, may cause a threat to the native species.

## 5. CONCLUSION

Presence of the lessepsian Bartail flathead *Platycephalus indicus*, in the Syrian coast (east part of Mediterranean) is confirmed and scientifically documented for the first time. This species is rare and, as the result of the environmental changes, it may establish itself in the area and threatens the native species.

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### Authors' contributions:

All authors are equal in contributing to this work.

### Ethical approval

The Animal ethical guidelines are followed in the study for species observation & identification.

### Funding:

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### Conflict of Interest

The authors declare that there are no conflicts of interests.

### Data and materials availability

All data associated with this study are present in the paper.

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